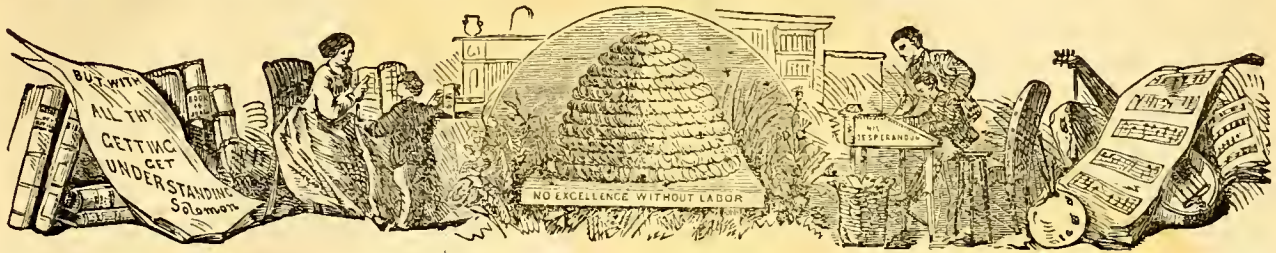


The Juvenile Instructor



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NO. 25.

DISCOVERY OF GOLD IN CALIFORNIA.

THE two men in the engraving before us seem deeply interested in conversation, and one is pointing to some place in the distance, as though describing something that had occurred or some discovery that had been made. He appears excited, and has evidently succeeded in communicating his excitement to the other. The other has a vial in his hand, which the man who is pointing has given to him to examine. That vial contains the subject of their conversation, and the cause of their excitement. It is gold. They have cause for excitement, for the discovery of those few grains of gold, with the discoveries of the extensive deposits which followed, were destined to effect one of the greatest revolutions of modern times.

In July, 1847, the Battalion of Latter-day Saints which the General Government had called for, and which had been enrolled one year previously at Council Bluffs, was discharged in California. After the discharge, the major portion of the brethren pro-

ceeded animals and traveled north. Some of them stopped to work in that country. Others left California and came on to this valley.

President Young and the company of Pioneers had been here, laid out the city, commenced the building of a fort, and leaving some of their number, had started back on their return journey, and the companies of families which had followed them to this valley had just reached here when these members of the Battalion arrived from California. Those who had no families remained here, but the others pushed on for Winter Quarters, which place they reached after suffering many privations on the road for the want of food.

Those members of the Battalion who remained in California went to work wherever they could get employment. A number of them were employed by a Captain Sutter, whose Fort was near the present site of the

city of Sacramento. Several of them were engaged by him at a mill which he and a Mr. Marshall owned at Colusa; and it



was at this place where the gold was discovered. Other discoveries were afterwards made by members of the Battalion, which were exceedingly rich.

Brothers Ira and Sidney Willis and bro. Hudson discovered gold on what is known as Mormon Bar, on the American river, where rich deposits were found; and through the labors of the Battalion in that country the gold of California was revealed to the world.

This discovery has changed the tide of commerce, developed an empire on the Pacific and caused the nation to advance with unprecedented strides and has effected important changes; all doubtless designed by Providence to prepare the way for the accomplishment of the great Latter-day work.

The engraving is intended to represent the discovery at Sutter's mill; but it is scarcely true to nature.

LEOPARD OF THE AIR.

One morning I heard a strange cry high up in the air. And on looking up, I saw what appeared to be an eagle, but much larger than any I had ever seen before. On asking what it was, my men exclaimed: "It is a *guanionien*, the leopard of the air; the bird that feeds on gazelles, goats and monkeys; the bird that is the most difficult of any to find and to kill."

"Yes," said Querlaouen; "in my younger days, I remember that my wife and myself were on our plantation, with some of our slaves, and one day we heard the cries of a babe, and saw a child carried up into the sky by one of these *guanioniens*. The baby had been laid on the ground, and the *guanionien*, whose eyes never miss anything, and which had not been noticed soaring above our heads, pounced on its prey, and then laughed at us as he rose and flew to a distant part of the forest." Then Querlaouen showed me a fetich partly made of two huge claws of this bird. What tremendous things those talons were! how deep they could go into the flesh!

Then came wonderful stories of the very great strength of the bird.

The people were afraid of them, and were compelled to be very careful of their babies. These grand eagles do not feed on fowls; they are too small game for them. Monkeys are what they like best; they can watch them as they float over the tops of the trees of the forest; but sometimes the monkeys get the better of them.

"People had better not try to get hold of the *guanionien*'s young, if they want to keep their sight," said Gambo; "for, as sure as we live, the old bird will pounce upon the man that touches its young."

For a long time I had heard the people talking of the *guanionien*, but I had never yet had a glimpse of one."

Now looking up again, I saw several of them. How high they were! At times they would appear to be quite still in the air; at other times they would soar. They were so high that I do not see how they could possibly see the trees; everything must have been in a haze to them; monkeys, of course, could not be seen. They were, no doubt, amusing themselves, and I wonder if they tried to see how near they could go to the sun. Some at times flew so high that I lost sight of them.

In the afternoon, I thought I would ramble round. I took a double-barreled smooth-bore gun; and loaded one side with a bullet in case I should see large game; the other barrel I loaded with shot No. 2. Then I sauntered into the woods till I reached the bank of a little stream, and there I heard the cry of the *mondi* (*Colobus Satanas*), which is one of the largest monkeys of these forests. From their shrill cries, I thought there must

be at least half a dozen together. I was indeed glad that I had one barrel loaded with big shot. If the *mondies* were not too far off, I would be able to get a fair shot and kill one.

I advanced very cautiously until I got quite near to them. I could then see their big bodies, long tails, and long jet-black, shining hair. What handsome beasts they were! what a nice-looking muff their skins would make! I thought.

Just as I was considering which of them I would fire at, I saw some big thing, like a large shadow, suddenly came down upon the tree. Then I heard the flapping of heavy wings, and also the death-cry of a poor *mondi*. Then I saw a huge bird with a breast spotted somewhat like a leopard, raising itself slowly into the air, carrying the monkey in its powerful, finger-like talons. The claws of one leg were fast in the upper part of the neck of the monkey; so deep were they in the flesh that they were completely buried, and a few drops of blood fell upon the leaves below. The other leg had its claws quite deep into the back of the monkey. The left leg was kept higher than the right, and I could see that the great strength of the bird was used at that time to keep the neck, and also the back, of the victim from moving. The bird rose higher and higher, the monkey's tail swayed to and fro, and then both disappeared. It was a *guanionien*. Its prey was, no doubt, taken to some big tree where it could be devoured.

The natives say that the first thing the *guanionien* does is to take out the eyes of the monkeys it catches. But there must be a fearful struggle, for these *mondies* are powerful beasts, and do not die at the eagle's will. There must be a great trial of strength, for, if the monkey is not seized at an exact place on the neck, he can turn his head, and he then inflicts a fearful bite on the breast of the eagle, or on his neck or leg, which disables his most terrible enemy, and then both falling, meet their death.

I looked on without firing. The monkeys seemed paralyzed with fear when the eagle came down upon them, and did not move until after the bird of prey had taken one of their number, and then decamped. When I looked for them, they had fled for parts unknown to me in the forest. I was looking so intently at the eagle and its prey that for a while I had forgotten the *mondies*. I do not wonder at it, for monkeys I could see often, but it is only once in a great while that such a scene as I witnessed could be seen by a man. It was grand; and I wonder not that the natives called the *guanionien* the leopard of the air. As I write these lines, though several years have passed away, I see still before me that big, powerful bird carrying its prey to some unknown part of the forest.—[Paul Du Chaillu, in *Harper's Magazine*.]

COTTON MANUFACTURE.

From "TRIUMPHS OF INVENTION AND DISCOVERY."

Published by T. Nelson & Sons, London.

DR. CARTWRIGHT.

IN the summer of 1784, a number of gentlemen were chatting, after dinner, in a country house at Matlock, in Derbyshire. Some extensive cotton-mills had recently been set up in the neighborhood, and the conversation turned upon the wonderful inventions which had been introduced for spinning cotton. There were one or two gentlemen present connected with the "manufacturing interest," who were very bitter against Arkwright and his schemes.

"It's all very well," said one of the grumblers, "but what will all this rapid production of yarn lead to? Putting aside

the ruin of the poor spinners, who will be starved because they haven't as many arms as these terrible machines, you'll find that it will end in a great deal more yarn being spun than can be woven into cloth, and in large quantities of yarn being exported to the Continent, where it will be worked up by foreign weavers, to the injury of our home manufacture. That will be the short and the long of it, mark my words."

"Well, but, sir," remarked a grave, portly, middle-aged gentleman of clerical appearance, after a few minutes' reflection, "when you talk of the impossibility of the weaving keeping up with the spinning, you forget that machinery may yet be applied to the former as well as the latter. Why may there not be a loom contrived for working up yarn as fast as the spindle produces it. That long-headed fellow, Arkwright, must just set about inventing a weaving machine."

"Stuff and nonsense," returned the 'practical man,' pettishly, as though it were hardly worth while noticing the remarks of such a dreamer. "You might as well bid Arkwright grow the cloth ready made. Weaving by machinery is utterly impossible. You must remember how much more complex a process it is than spinning and what a variety of movements it involves. Weaving by machinery is a mere idle vision, my dear sir, and shows you know nothing about the operation."

"Well, I must confess my ignorance on the subject of weaving," replied the clergyman; "but surely it can't be a more complex matter than moving the pieces in a game of chess. Now, there's an automaton figure now exhibiting in London, which handles the chessmen, and places them on the proper squares of the board, and makes the most intricate moves, for all the world as if it were alive. If that can be done, I don't see why weaving should baffle a clever mechanist. A few years ago, we should have laughed at the notion of doing what Arkwright has done; and I'm certain that before many years are over, we shall have 'weaving jennies.'"

Dr. Cartwright, for that was the clergyman's name, confidently as he foretold that machine-weaving would be devised before long, little dreamt at that moment that he was himself to bring about the fulfillment of his own prediction. A quiet, country-clergyman, of literary tastes, a scholar, and poetaster, he had spent his life hitherto in the discharge of his ministerial duties, writing articles and verses, and had never given the slightest attention to mechanics, theoretical or practical. He had never so much as seen a loom at work, and had not the remotest notion of the principle or mode of its construction. But the chance conversation at the Matlock dinner table suddenly roused his interest in the subject. He walked home meditating on what sort of a process weaving must be; brooded over the subject for days and weeks,—was often observed by his family striding up and down the room in a fit of abstraction, throwing his arms from side to side like a weaver jerking the shuttles,—and at last succeeded in evolving, as the Germans would say, from "the depths of his moral consciousness," the idea of a power-loom. With the help of a smith and a carpenter, he set about the construction of a number of experimental machines, and at length, after five or six months' application, turned out a rude, clumsy piece of work, which was the basis of his invention.

"The warp," he says, "was laid perpendicularly, the reed fell with the force of at least half a hundred-weight, and the springs which threw the shuttle were strong enough to have thrown a Congreve rocket. In short, it required, the strength of two powerful men to work the machine at a slow rate, and only for a short time. This being done, I then condescended to see how other people wove; and you will guess my astonishment when I compared their easy modes of operation with mine. Availing myself of what I then saw, I made a loom in its general principles nearly as they are now made. But it

was not till the year 1787 that I completed my invention." Having given himself to the contrivance of a loom that should be able to keep pace in the working up of the yarn with the jenny which produced it, solely from motives of philanthropy, he felt bound, now that he had devised the machine, to prove its utility, and bring it into use. To have stopped with the work of invention, would, he conceived, have been to leave the work half undone; and, therefore, at no slight sacrifice of personal inclination, and to the rupture of all old ties, associations, and ways of life, he quitted the ease and seclusion of his parsonage, abandoned the pursuits which had formerly been his delight, and devoted himself to the promotion of his invention. He set up weaving and spinning factories at Doncaster, and, bent on the welfare of his race, began the weary, painful struggle that was to be his ruin, and to end only with his life. "I have the worst mechanical conception any man can have," wrote his friend Crabbe, "but you have my best wishes. May you weave webs of gold." Alas! the good man wove for himself rather a web of dismal sackcloth, sore and grievous to his peace, like the harsh shirts of hair old devotees used to vex their flesh with for their sins. The golden webs were for other folk's wear,—for those who toiled not with their brain as he had done, but who reaped what they had not sown.

He had invented a machine that was to promote industry, and save the English weavers from being driven from the field, as was beginning to be the case, by foreign weavers; and masters and men were up in arms against him as soon as his design was known. His goods were maliciously damaged,—his workmen were spirited away from him,—his patent right was infringed. Calumny and hatred dogged his steps. After a succession of disasters, his prospects assumed a brighter aspect, when a large Manchester firm contracted for the use of four hundred looms. A few days after they were at work, the mill that had been built to receive them stood a heap of blackened ruins.

Still, he would not give up till all his resources were exhausted,—and surely and not slowly that event drew nigh. The fortune of £39 000 with which he started in the enterprise melted rapidly away; and, at length, the day came when, with an empty purse, a frame shattered with anxiety and toil, but with a brave, stout heart still beating in his breast, Cartwright turned his back upon his mills, and went off to London to gain a living by his pen. As he turned from the scenes of his misfortunes, he exclaimed,—

"With firm, unshaken mind, that wreck I see,
Nor think the doom of man should be reversed for me."

The lion that has once eaten a man, has ever after, it is said, a wild craving after human blood. And it would seem that the faculty of invention, once aroused, its appetite for exercise is constant and insatiable. Cartwright having discovered his dormant powers, he could no more cease to use them than to eat. A return to his quiet literary ways, fond as he still was of such pursuits, was impossible. An inventor he was, and an inventor he must continue till his eye was glazed, and his brain numbed in death. When a clergyman, he set himself to study medicine, and acquired great skill and knowledge in the science, solely for the benefit of the poor parishioners, and now he gave himself up to the labors of invention with the same benevolent motives. Gain had not tempted him to enter the arena,—discouragement and ruin were not to drive him from it. The resources of his ingenuity seemed inexhaustible, and there was no limit to its range of objects. Wool-combing machines, bread and biscuit baking machines, rope-making machines, plows, and wheel carriages, fire-preventives, were in turn invented or improved by him. He predicted the use of steamships, and steam carriages,—and himself devised a model of the former (with clockwork instead of a steam-engine), which a little boy used to play with on the ponds at Woburn, that was to grow up into an eminent statesman—Lord John Russell.

The Juvenile Instructor.

GEORGE Q. CANNON, : EDITOR.

SATURDAY, DECEMBER 3, 1869.

EDITORIAL THOUGHTS.



KNOWLEDGE is easily obtained in this country. Books are very plentiful and cheap. A very fine library of books can now be bought for a small sum of money than was paid in former days for one volume. The art of printing has made this change. Before this art was discovered, books had to be copied in writing. This was a very slow and expensive method of getting a book; and no person, unless he was very rich, could afford to buy one. You can find a Bible in almost every house now, they are so cheap and such immense numbers are printed; but in the days of which we write very few men, except the Roman Catholic priests, ever saw a Bible. The priests were almost the only persons who had any education. The mass of the people could neither read nor write, and there were many noblemen, owners of large estates and castles, and who had large bodies of servants, who could not write their own names. A rich man who could not write his name in these days would be thought a great dunce.

Just think of the labor of copying a large book, like the Bible, with a pen! No wonder books were few in number and very costly!

The Roman Catholic priests do not marry. They have no wives or children to take care of. In olden times, they lived together in companies in houses all over Europe. These houses were called abbeys, convents, and monasteries. And it was in these places that the Bible and many books were copied by the priests. Copying books was a regular business, however, in those days, which others besides priests followed, and some of the specimens of their work are very beautiful.

There is a story told about Faust, one of the discoverers of the art of printing, which, in this connection, may be interesting to you. Faust had printed a considerable number of copies of the Bible, and took them to Paris, in France, to sell. He had kept his discovery of printing as a great secret, and that no one might suspect that his books were not written, he had made his type in the same shape as the written characters. He thought it was to his interest to do this, that every body might think his printed books were written. Written Bibles were then sold at five hundred crowns each; but he offered his for sixty crowns! This caused great astonishment; but more so when it was found that he could produce copies as fast as they were wanted, and even lowered his price. The transcribers of books became excited. Here was a man ruining their trade, and he must be stopped. But how? They knew that no man could copy Bibles as they did, and sell them as cheap as Faust was selling his. They examined those he sold, and they made the discovery that they were all alike. Each one was an exact copy of all the rest! No man could do this with a pen. If they had been written, there would have been some difference between the copies. They went to the magistrates and accused him of being a magician. He was arrested, his lodgings searched and a great number of copies were found. Here was

proof that he was a magician! But they made another discovery, which made them still more confident that he was in league with the Devil. In imitating the written copies he had to use red ink in some parts; for the writers were in the habit of embellishing their copies with red ink. But Faust had invented an ink that was better than theirs, and when it was printed it was very brilliant. This they said was his blood, and they were sure that he had sold himself to Satan. To save himself from being burned, he had to tell the Parliament of Paris all about his method of printing. In this way, he saved his life, and they freed him from all prosecution.

We, who live in these days, cannot appreciate the great value of the discovery of printing. But think how ignorant the people would be if all the books had to be written! It would be a most difficult labor for the Elders to preach the gospel, and to convince the people of its truth, if there were only a few books and only a few people who could read them. God inspired men to invent printing that His word might be spread through the nations. The Bible is printed, and the people can read it for themselves; the Book of Mormon and Book of Doctrine and Covenants are published, and all can read the word of God contained therein. By these means, knowledge is increased. When the Elders preach; they can refer the people to the Bible, and they can see for themselves that they teach according to it. How thankful we all should be for this precious blessing!

THE HORSE AND THE DROWNING SAILORS.—A violent gale of wind setting in from the north near the Cape of Good Hope, a vessel in the road dragged her anchors and was forced on the rocks, where she at once went to pieces; and while the greater part of the crew were immediately drowned, the rest were seen from the shore struggling for their lives by clinging to the different pieces of the wreck. The sea ran dreadfully high, and broke over the sailors with such amazing fury that no boat whatever could venture off to their assistance. Meanwhile a planter had come from his farm to be a spectator of the shipwreck; his heart was melted at the sight of the unhappy seamen, and knowing the bold spirit of his horse and its excellence as a swimmer, he instantly determined to make an effort to deliver them. He alighted, and blew a little brandy into his horse's nostrils, when, again seating himself in the saddle, he instantly pushed into the midst of the breakers. At first both disappeared; but it was not long before they floated on the surface, and swam up to the wreck; when taking with him two men, each of whom held by one of his boots, he brought them safe to shore. This perilous service he repeated seven times, and saved fourteen lives; but on his return the eighth time, his horse being much fatigued, and meeting an immense wave, he lost his balance, and was overwhelmed in a moment. The horse swam safely to land, but his gallant rider, alas! was seen no more.

A CERTAIN philosopher, wishing to ascertain how far aquatic birds might convey seeds from one lake or pond of fresh water to another, in the mud adhering to their feet, took out a portion of such mud, in order to ascertain how far it might be supplied with the germs of vegetable life. The quantity which he took was about a teacupful. This mud he placed in a situation to allow the seeds which it contained to germinate, and as fast as little plants appeared, he pulled them out and counted them. He obtained from this single teacupful of soil more than two hundred living plants!

"Why, this thing is an impossibility!" exclaimed one, to the projector of a difficult enterprise. "To you it would be!" was his curt and not inappropriate reply.

For the Juvenile Instructor.

DON'T BE CRUEL.

WE sometimes fancy from the savage manner in which boys and men treat dumb animals, that they must fancy that human beings alone have the sense of feeling. See how many cruel children will torture insects; how they will pull them to pieces while alive; or, when they grow bigger, how they will ill-use dogs and cats, horses and cows, or any other creature that happens to offend them, or that they in their wantonness take a fancy to abuse.

We will now tell you a story that we once read in the papers, of a cruel driver who abused his horse and what afterwards happened to him; perhaps it may teach a lesson to some who cannot be instructed in any other way. Here it is, with a picture to illustrate it.

"A rough unmerciful man once struck his horse in the eye with his whip, when the animal was struggling in vain to draw a heavily-loaded wagon from a hole in the road. He caused the horse dreadful pain; and, at length, from over-exertion, exhaustion and fright, the poor animal fell to the ground. Yet this did not move the savage man's heart, who redoubled his blows until the horse in despair again sprang to his feet. Putting forth its last effort, it frantically strove to escape from its tormentor. It struggled, first one way, then another, until at last the entire wagon fell into the pit, and the load was nearly buried in the mud.

"It was now that the monster beat the horse more severely still, until the blood flowed from the animal's mouth and nose, and its eye, cut by the whip, hung half out of the socket.

"But the punishment due this inhuman act did not long tarry; for one day this man had a quarrel with a comrade, named Wright, and when he sought to strike him with a stout stick, Wright, avoiding the blow, picked up a stone and threw it into the eye of his opponent, when in the act of springing upon him, on which he completely lost forever the use of it. Often afterward did he remember, with remorse, how he had once cut out the eye of his poor horse with his whip; and too late realized the folly and danger of brutally treating Heaven's dumb creatures."

Now the fear of such a punishment should not be the motive to deter any from acting with cruelty. They should be kind to others, and to animals, and birds, and creeping things, because it is right to be kind, and because they like to be treated with kindness themselves. If rough cruel boys would only ask themselves the question when they ill-treat an animal: "If I were this poor dumb brute, how should I like to be treated in this manner," I think many of them would be much kinder.

In a school, "Ale and Beer Measure" was given out as one of the lessons for the next day. Next morning the first boy was called upon, but said, "I don't know it." "How's that?" asked the teacher. "Please, sir," he replied, "neither father nor I think it's any use, for we neither mean to buy, sell or drink the stuff."

FRETTING is a constant confession of weakness. It says—"I want to, but I can't."

PANGOLIN.

HAVE you ever heard of the armor-plated animals? They are very curious, with their thick, horny coats of mail, so hard and tough that a musket-ball will glance from them. Pangolins are among the most remarkable creatures of this class. They are found in India and Africa, are harmless in character, though very strong of their size, and their flesh is considered a great delicacy by the Africans.

The Pangolin has pointed scales on its body which overlap each other; when it bends, they are thrown out in an erect position, like wide-pointed horns. The under part of the body is not so well protected; but the skin there is very hard and tough,—so tough that it is no wonder the short hairs growing upon it are always thin and in anything but a flourishing condition. The hind feet are longer than the fore ones, which are

scarcely more than claws. The tail is flat beneath, and, like the feet, is entirely protected by scales. Its head is short and pointed, its ears and eyes of a good size, and its mouth very small and without teeth. On this last account the pangolin is classed under the order of *Edentata*, or toothless animals. If you could see the tongue, you would soon suspect how the creature gets its food. It is long, round and sticky at the end, and has a way of darting forth when an ant or other little insect ventures near; when it goes back again, something for the pangolin's dinner is sticking to it. Now you can guess why the nose is sharp, and why the feet are so well formed for digging. It is quite important to the pangolin that they should be so; but it makes it rather bad for the ant-hills and underground homes of insects, especially for the big houses of the *Termites*, a kind of white ant.



When beset by danger, the pangolin scarcely makes any effort to escape, but at once rolls itself up in the form of a ball, the head being doubled down and covered by the strong flat tail, the feet gathered up close to the under surface of the body and every scale standing out straight. A Mr. Fraser, who resided for some time at Fernando Po, in Africa, once found two live pangolins, and kept them in a room for several days. "They fed upon a small black ant," he says, "which is very troublesome and abundant in the houses and elsewhere. Even when first procured, they displayed little or no fear, but continued to climb about the room without noticing my occasional entrance. They would readily climb up the somewhat roughly hewn posts which supported the building, and, upon reaching the ceiling, would return head foremost. Sometimes they would roll themselves up into a ball and throw themselves down—the fall being broken by the erected scales. In climbing, the tail, with its strongly-pointed scales beneath, was used to assist the feet, and the grasp of these, assisted by the tail, was so powerful, that the animal would throw the body back, when on the post, in a horizontal position, and sway itself to and fro."

—[Hearth and Home.

THEY have excluded the Bible from the public schools of Cincinnati. The next thing we might look for will be to abolish the dictionary, and put out the gas lights.

INDUSTRY is the royal road to fortune and eminence.

RAMBLES IN CHINA. A FISH STORY.

I think of myself as sitting by some one of the thousands of pleasant firesides in the United States amid a group of boys and girls. We toast our toes, tell riddles and stories, and make the room ring with our laughter. As it is my turn to give a story, I shall tell you, my young friends, about what is going on right down beneath our feet, in China. I was down there a few months ago. It is a country where old men as well as boys fly kites, walk on stilts, and amuse themselves by making enormous paper dragons, with bodies like snakes, fifty or one hundred feet long, and as large as a flour barrel, with huge claws and great mouths wide open, and goggle eyes flaming with fire. The lanterns that light the streets of the cities are as large, almost, as hogsheads. In that country there are several million people who live in boats, sleeping in drawers built into the sides of the boats. They hatch ducks and chickens in ovens, rear them in flocks,—letting them into the water two or three times a day, just as you are let out of school at recess for a grand frolic. The master calls them back by a whistle, and gives the tardy ones a good drubbing for being behindhand. Possibly some of you could tell me a story about being late in from recess.

The Chinese are ahead of us in some things, especially in catching fish. Years ago, when I was younger than I am now, I loved dearly to go a-fishing. There was nothing that so set me on tiptoe. I remember the first fish I ever caught; it was a horn-pout, with a mouth split from ear to ear, only I never could find his ears; it was wide enough for him to swallow himself! He had long smellers, and was a tremendous fellow. My alder fish-pole bent almost double as he pulled and tugged at the line, but I got him into the boat at last. Didn't he bounce around? I have seen whales since, but he was bigger than a whale—at least so I thought then.

The fact is, he was a little fellow, and my father took the conceit out of me by saying that he wasn't worth dressing; but I carried him home, and had him go into the frying-pan, and there never was a sweeter morsel than he made. I caught him, and that was what made the breakfast one of the best ever cooked. What we accomplish ourselves is of more value to us than what others do for us.

The Chinese are very fond of fish, and hundreds of thousands of people fish for a living.

Let us in imagination think of ourselves as being in China, sailing up the great river Yang-tse, which, you will see by looking at your school atlas, is nearly as large as the Mississippi. It rises in Central Asia, and flows through the heart of the Empire to the sea. You see a great many boats filled with men, women, and children. The boats are their homes. They live in them from childhood to old age—father, mother, grandparents, and children, with pigs, ducks, chickens, cats and dogs.

Two boats sometimes move side by side, a few rods apart, with a long net or seine between them; after rowing awhile, they come together, draw in the net, and take out the fish.

As you sail along the shores, you see a great many contrivances that look like well sweeps. A tall post is driven into the ground just in the edge of the water, and a long pole tilted upon it, reaches twenty or thirty feet out into the river. A net attached to the pole drops into the stream. The fisherman sits on the bank in a little hut not much larger than a dog's house, and every few minutes he pulls down his end of the pole, which, of course, raises the other and lifts the net from the water. If he catches three or four fish a day, he is content, for his wants are few, and it does not cost him much to live.

The Chinese catch a great many fish without hook, or line,

or net. I don't believe you can guess how they do it. Try now. "By driving the fish into a pen?"

No. I have seen people do that—making a wicker-work fence of stakes and withes, and then splashing the water to frighten the fish; but the Chinese don't do it in that way. "By a pot?"

No; you haven't hit it. I used to do that—making a dam across a brook in my father's meadow, and weaving a basket or pot, as we called it, large at both ends, tapering like a tunnel in the middle, with a hole leading to a box, with sharp spikes pointing in one direction set around the hole. The suckers and trout could go in, but to get out was another matter. "By snearing them?"

No; the Chinese do not have such glorious fun as I enjoyed in my boyhood, at night, with a pitch-knot torch flaming in a jack at the bow of a boat. How exciting to see a great pickerel with yellow sides lying motionless in the water! And then to let him have it right back of the gills, and draw him in before he could tear himself away! Ah! that was fun.

As you cannot guess, I will tell you. The Chinese fish with birds. "With birds!"

I thought that you would open your eyes wide. Yes, with birds about as large as geese. They have sharp bills, are brown in color, and are exceedingly nimble. They are tame sea ravens or cormorants. They live on fish, and have voracious appetites. They will eat their own weight in fish in a few hours. They seem to be always hungry. The more they have, the more they seem to want. Being always hungry, they are exceedingly active. They have sharp eyes, large wings, web feet, and swim very fast. They dive as quick as a fish.

Look at that one swimming in the stream—on the watch for fish. There he goes! In a twinkling he is out of sight. Here he comes with a fish in his mouth, which is struggling to get away, but the raven holds him fast and swims to his master's boat, where he is taken aboard. He cannot swallow the fish because his owner has slipped an iron ring upon the poor creature's throat. He lays the fish down and waits until the ring is taken off, and then he can only have a morsel of fish, just enough to sharpen the appetite, and make him wide awake for more. The owner strokes the bird's head, calls him a good fellow, and throws him into the water for another venture.

Down he goes again. A minute passes. Here he comes! but without a fish. He gets a whipping now. He can have no luncheon until he catches another.

If we go into a city or town anywhere in China, we shall see large fish markets, not little sheds with here and there a table with a few flounders, perch, cat-fish, pickerel or trout upon it, and a tubful of eels, as in our own markets; but we shall see great tanks, filled with running water with thousands of live full-grown fish in them. They have been brought in from the breeding ponds in the country, where they were hatched and reared, fed and fattened until fit for the market. It costs but a trifle to rear them, and here they are, lusty fellows, weighing two, three, four and five pounds. When the people come to market, they select such a fish as they want, the market man catches it in a hand net, dresses it on the spot, and the customer carries it home for his dinner. "From the tank to the frying pan" is the Chinese proverb about fish.

We may learn something from the Chinese in regard to fish culture. Nearly all the fish eaten in the United States are brought from the sea or caught in the lakes and rivers. A few men have begun to raise fish for the market, and have found it very profitable. It is easy to do, and there are many boys who live on farms where ponds might be made in which they could rear fish for the market, just as they now raise turkeys, chickens, ducks, geese, pigs and sheep.

The market men would find it profitable to build tanks, supply them with water, and keep their fish alive until called for

by their customers. In warm weather there would be no loss from stale, unsold fish, and then the fish would be a great deal better if cooked immediately after being taken from the tank.

I know that some of my young friends will say this is a "Fish Story." But it is true for all that. If you do not believe it, just go around to the other side of the world and see for yourselves. If you do not get away too soon, however, I shall have more to tell you about that wonderful country and the queer people that live there.—[*American Agriculturist*.]

For the Juvenile Instructor.

Chemistry of Common Things.

METALS.

METALS are known from other substances by their luster, malleability and ductility, but especially by their power to conduct heat and electricity. Metals vary, however, much in these respects:—some are brittle, as Bismuth; others are malleable, as Gold, which may be extended by beating; others are ductile, or capable of being drawn into wire, as Gold, Iron and Copper. All the metals are solid at common temperatures except Mercury, which is a white, heavy, fluid substance. All metals can be reduced to the fluid state by heat, but at different temperatures. Potassium melts at a temperature below that of boiling water; Iron requires the heat of a blast furnace; Platinum requires the intense heat of the oxy-hydrogen flame to fuse it. In weight, also, metals differ; Gold and Platinum being respectively twenty and twenty-one times heavier than the same bulk of water. Potassium and Sodium are lighter than water, hence they float on its surface. Some metals are soft, as Potassium and Sodium, which may be moulded between the fingers like wax; others are hard and require heat and hammering to shape them, as Iron. Some are found in the metallic state, as Gold and Copper, specimens of which may be seen in our excellent Museum. Sometimes Iron, also, may be found as a metal. Generally it is in the form of *ores* that the metals are found, from which they are reduced to the metallic state by heat. Some metals attract oxygen with avidity, as Potassium and Sodium, which decompose water by their affinity for that element; others have little attraction for oxygen, as Gold, Platinum and Silver. Those metals which tarnish or rust readily are acted upon by oxygen; Iron readily forms a rust by the union of its particles with oxygen. In the examination of the metals separately, these qualities and others will receive more attention than at present.

Metals may be divided into metals of the alkalies: Potassium, Sodium, etc. Metals of the alkaline earths: Calcium, etc. Metals of the earths: Aluminum, etc. And proper metals: Gold, Silver, Iron, etc. In our inquiries, those metals which are the most important will receive the most attention; some are rarely met with and only known in the laboratory of the chemist.

But few of the metals enter into the composition of organic substances and that only in small quantities; these are chiefly the metals of the alkalies. Calcium, a metal of the alkaline earths, enters largely into the composition of the bones of animals, as phosphate of lime, and into the hard substances forming shells, as carbonate of lime. Iron, also, is found in nearly all organic bodies; so, also, is Magnesium and Manganese;

but it is *not in the metallic state*. Natural processes are going on by which those metals are prepared for the use of animals. And, although other metals are occasionally given as medicine, they do not appear to be usual constituents of organic tissues.

Metals are capable of entering into mutual combination; they are then said to be *alloys*. There is no such thing as *brass* in nature; it is an alloy of Copper and Zinc; Gold is alloyed with Copper in nearly all articles of jewelry. The hard white metals known as Nickel, etc., used for making spoons, are alloys. The substance called tin is thin Iron covered with tin; Pewter is a composition of tin and lead; of this metal, plates, dishes, spoons, etc., are frequently made.

To obtain the metals from the various ores constitutes the art of the metallurgist, who, by the use of various substances called *fluxes* separates earthy matters and causes the oxygen or other element in union with the metals to unite with some other element. Gold, when disseminated or in a scattered form among the substance of rocks or earthy matter is reduced to powder and washed, after which, when the particles of earth are separated, quicksilver is mixed with it. The Gold, by dissolving into the quicksilver, forms an *amalgam*. The mass is then submitted to heat until the Quicksilver or Mercury is carried off in vapor, the Gold remaining. Silver also may be separated in this way. Acids are also used for *dissolving out* the precious metals. The coarser and less precious but more useful metals, such as Iron, Copper, etc., are smelted and run out in a liquid form. Of Iron, all our most useful instruments are formed; of Copper and Brass, utensils of various kinds. Without the metals, man could not advance greatly in civilization, Gold and Silver are however used for ornamentation chiefly and for coin; it is the iron which gives us our railways and locomotives, and the bulk of that which ministers in the metallic form to the true advancement of man.

BETH.

Biography.

JOSEPH SMITH, THE PROPHET.

A VERY effort was made by the enemies of the Saints, after the *Expositor* was declared a nuisance, to fan the flames of persecution and to form combinations to drive and exterminate them. In some parts, they threatened to drive or kill every Latter-day Saint who did not deny the faith and cease to believe that Joseph was a Prophet of God. They also threatened to use violence to those who were not Latter-day Saints, if they did not take up arms to help them drive the Church out of the country. Those whom they could not persuade to join them in their schemes, they tried to frighten by their threats. They told men of this class that they must join them, or leave the country, or give their arms to them. One of the leading spirits in this work of persecution was one Levi Williams, a colonel of militia, and a Baptist preacher. With all his pretensions to religion, he was a great villain. Robbery, house-burning, murder and every other act of violence, he thought perfectly right so long as th

Latter-day Saints were the victims. To accomplish the destruction of the Saints, he was willing to adopt any measure, however wicked or violent. There were many others who were like him. They acted upon the idea that it was no disgrace to shoot a "Mormon," that he had no rights which they should respect. Where they had the power, they were very violent and abusive; but they were always careful to have the largest number on their side when they made any attack on any person or settlement. They visited individuals and those who lived in small settlements, because they were not afraid of meeting equal numbers to resist them. As soon as the help which they expected from Missouri should arrive, they said they should then march against Joseph and the city of Nauvoo, capture him and then destroy the city. They expected about fifteen hundred or two thousand men from Missouri to help them.

Joseph was well-informed respecting the movements of the mob, and he counseled the brethren to keep cool and prepare their arms for the defense of the city. He had guards posted on all the roads leading out of the city; and, within the city, he had other guards stationed in the streets and on the river bank. This he did in his capacity as Lieutenant-General of the Nauvoo Legion. He also issued orders to have all the powder and lead in the city secured, and that all the arms should be brought into use, and those which were not used by their owners be put in the hands of those who could use them. Under the circumstances which then existed, these preparations were necessary, for the mob were threatening to march upon the city, and they could only be kept from doing so by the knowledge that the Saints were prepared to give them a warm reception. Joseph, in company with several officers of the Legion, visited the prairie east of Nauvoo and arranged his plans for the defense of the city, and selected the most suitable points at which to meet the mob. He also made arrangements to secure provisions for the city, giving his agent instructions to pledge his farms for that purpose. On the 18th of June, he proclaimed the city of Nauvoo under martial law, and issued the following proclamation:

"To the Marshal of the City of Nauvoo,—

From the newspapers around us, and the current reports as brought in from the surrounding country, I have good reason to fear that a mob is organizing to come upon this city, and plunder and destroy said city, as well as murder the citizens; and by virtue of the authority vested in me as Mayor, and to preserve the city and lives of the citizens, I do hereby declare said city, within the limits of its incorporation, under martial law. The officers, therefore, of the Nauvoo Legion, the police, as well as all others, will strictly see that no persons or property pass in or out of the city without due orders.

JOSEPH SMITH, Mayor."

When a city is under martial law, military authority becomes the ruling power; and the people cannot go out, neither can others come in without permission from the military commander. It is a strict, and in the hands of some men, a severe law; but in Nauvoo, it was not severe on the Saints; it was a protection to them, as it gave the power to maintain a more complete control and to prevent the coming in and going out of enemies.

Two days previous to the proclamation of martial law, a public meeting was held at which a number of delegates were appointed to go to the different precincts throughout the county to lay a true statement of the condition of affairs at Nauvoo before the people, and to correct the many false reports which had been put in circulation. Joseph, on the same day, in his capacity as Mayor, issued a proclamation, in which he explained, at length, the causes which had led to the *Expositor* being declared a nuisance and destroyed. He also wrote to Governor Ford and sent his letter by the hands of Edward

Hunter, Philip B. Lewis and John Bills as messengers. In this letter, he expressed his desire that the Governor would come to Nauvoo in person, with his staff, and investigate the whole difficulty without delay. This he thought would be the best method of restoring peace to the country. With the letter, he sent an affidavit concerning the intentions of the mob.

All this evidence had, however, but little weight with Governor Ford. He lacked the firmness, decision of character and the sense of justice necessary to maintain order and to enforce the right. He became the tool of the mob, and they managed him, without informing him of all their plans, to suit their own purposes. On the 21st of June, he came to Carthage, one of the places where the mob had full sway, and sent an express in to Nauvoo to the Mayor and City Council, requesting them to send out to him one or more well-informed, discreet persons, who could lay before him the City Council's version of the difficulty. Elders John Taylor, Willard Richards and Dr. John M. Bernhisel were selected to go. Brothers Taylor and Bernhisel did go, taking with them a number of affidavits, which set forth in great plainness the acts of the mob, and Brother Richards remained to prepare additional documents. The next day, these documents were sent by the hand of Lucien Woodworth, who went in the stead of Dr. Richards. Joseph wrote another long letter to Gov. Ford, and sent by him, in which he made many explanations, and repeated his request for the Governor to come to Nauvoo. If he would come there, the Mayor and City Council could lay the whole matter before him in its true colors and sustain their statements by an abundance of testimony. But if they had to go to Carthage to do this, they would expose themselves to the power of a mob, filled with fury and a desire to shed blood, a part of whom had already fired several times upon the Saints.

BEAUTIFUL SNOW.

Oh! the snow, the beautiful snow!

Filling the sky and earth below;

Over the house-tops, over the street,

Over the heads of the people you meet;

Doing, flirting, skimming along;

Beautiful snow! it does no wrong.

Flying to kiss a fair lady's cheek,

Clinging to lips in frolicsome freak.

Beautiful snow from heaven above,

Pure as an angel, gentle as love!

Oh the snow, the beautiful snow,

How the flakes gather, and laugh as they go

Whirling about in the maddened fun,

It plays in its glee with every one;

Chasing, laughing, hurrying by;

It lights on the face, and it sparkles the eye;

And the dogs, with a bark and a bound,

Snap at the crystals that eddy around;—

The town is alive, and its heart in a glow,

To welcome the coming of beautiful snow.

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